

FIG. 1

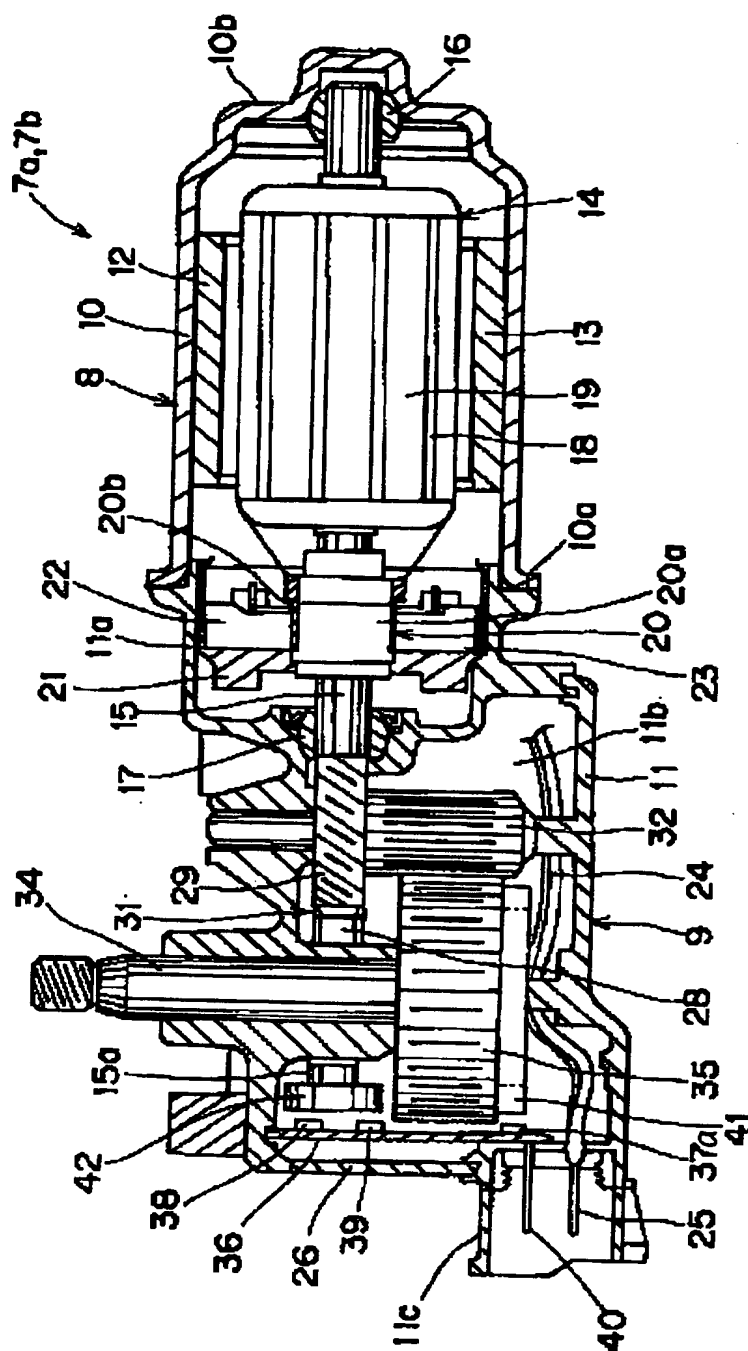


FIG. 2

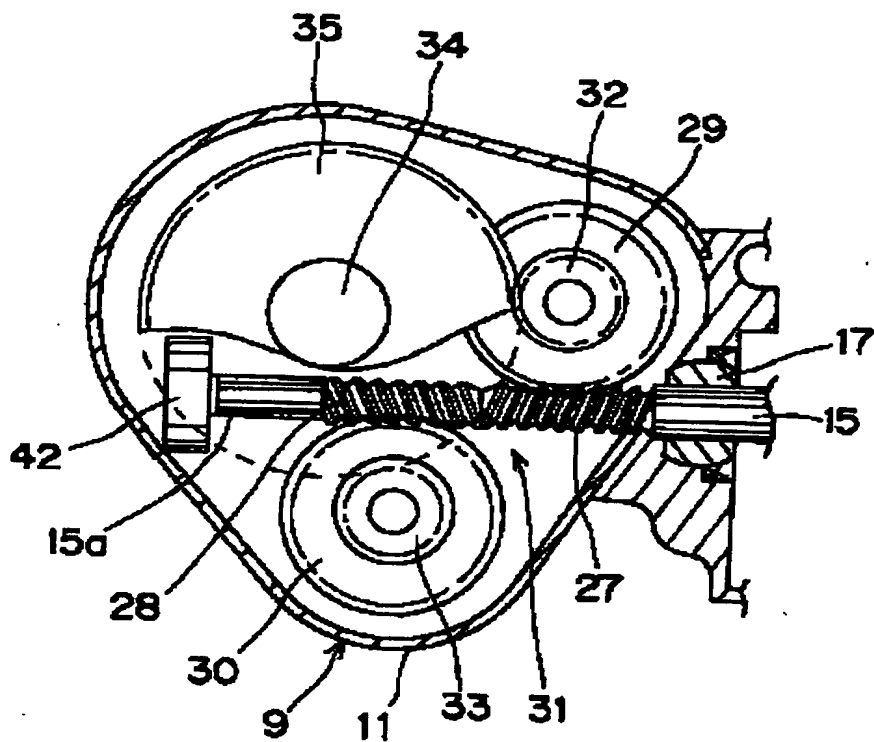
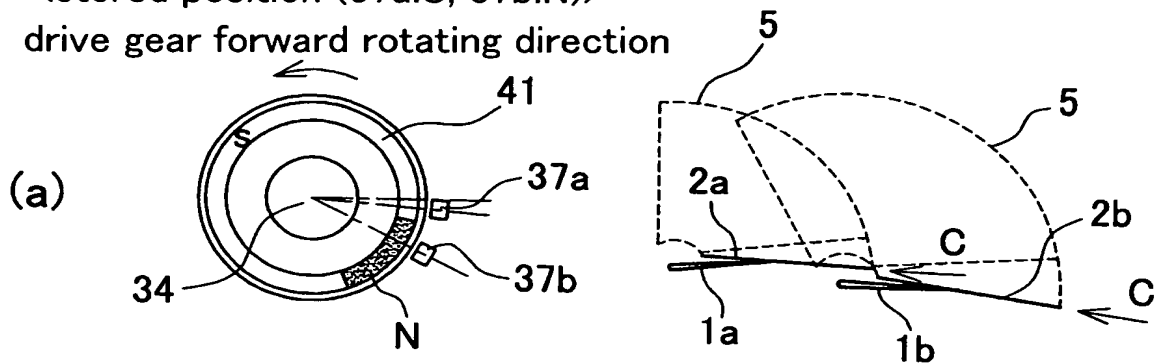
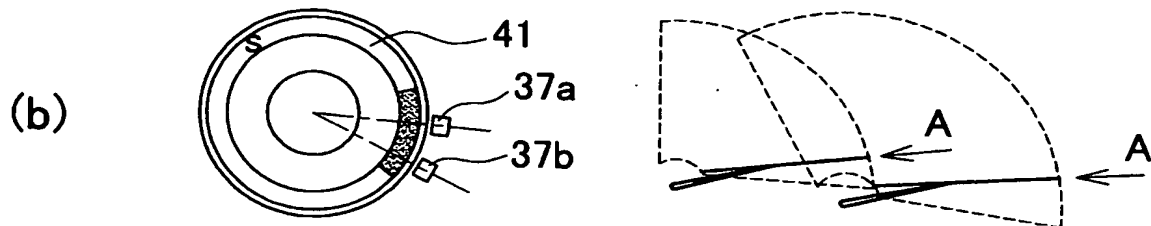


FIG. 3

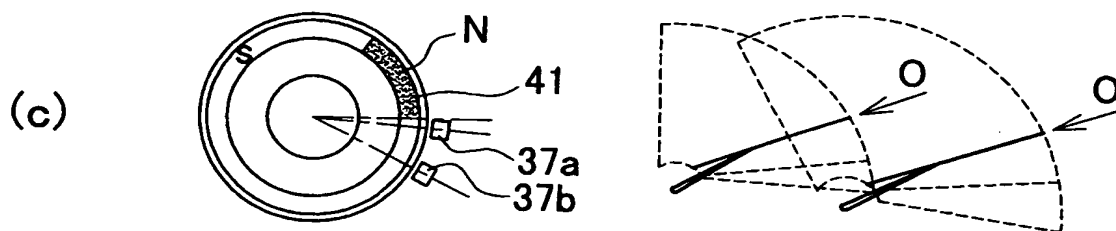
<stored position (37a:S, 37b:N)>
drive gear forward rotating direction



<lower reversal position (37a:N, 37b:N)>



<origin position (37a:forward rotation N → S,
reverse rotation S → N, 37b:S)>



<upper reversal position

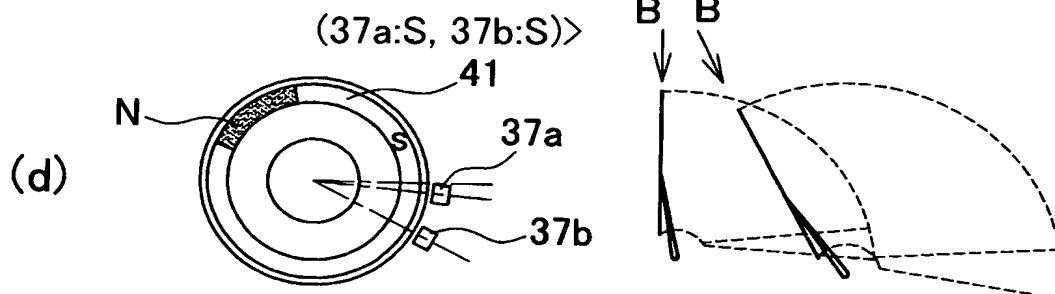
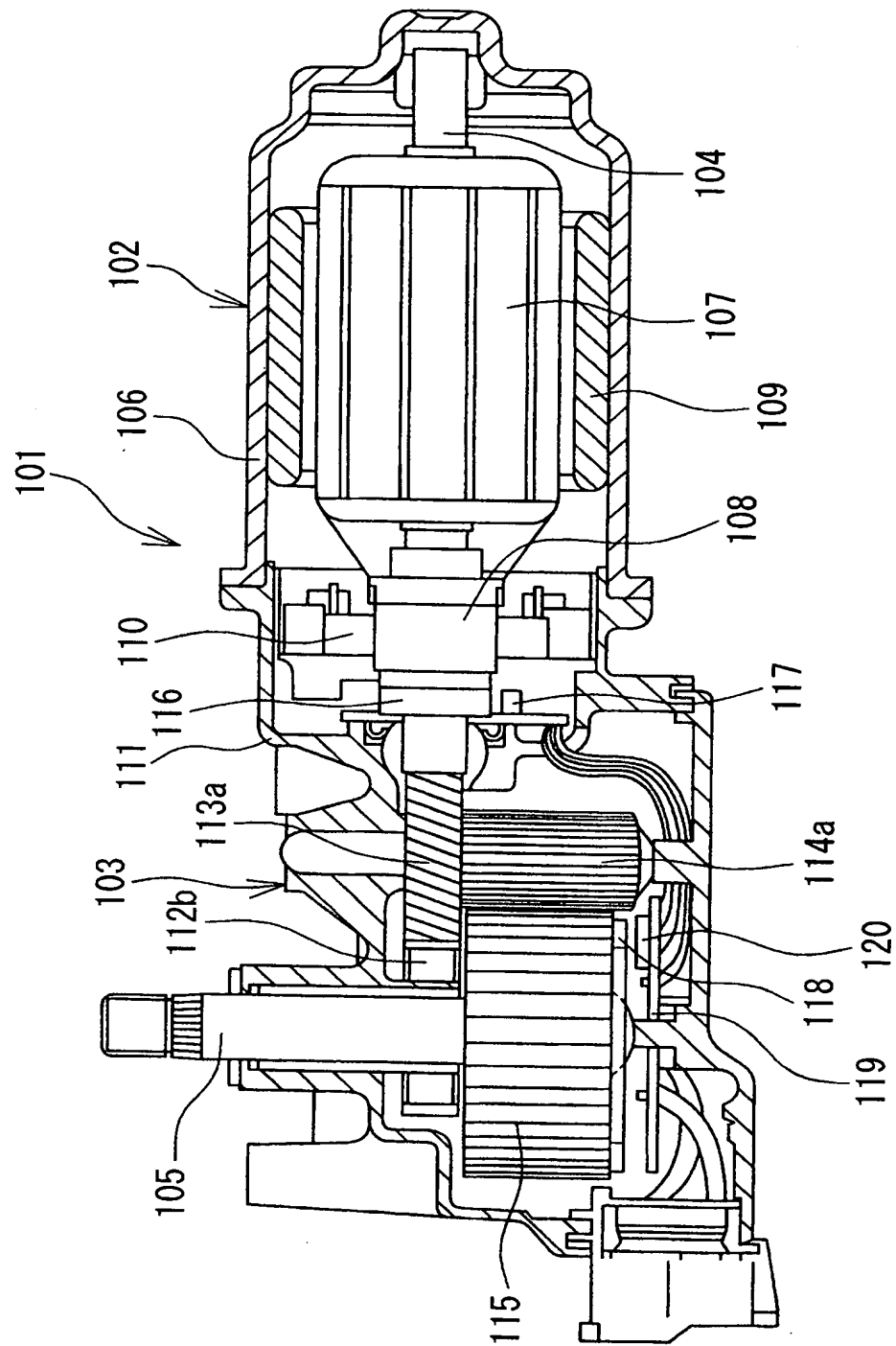


FIG. 4

	Hall IC 37a (when rotating forward)	Hall IC 37b (when rotating backward)
stored position	S	N
lower reversal position	N	N
origin position reset	N → S or S → N	S
to upper reversal position	S	S

FIG. 5



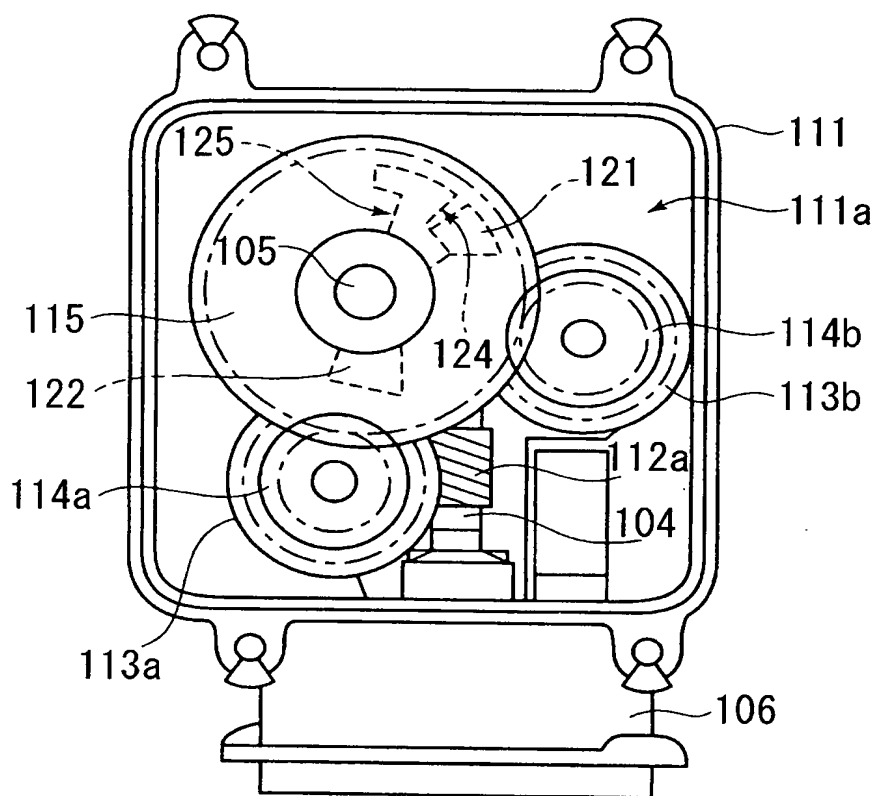


FIG. 7

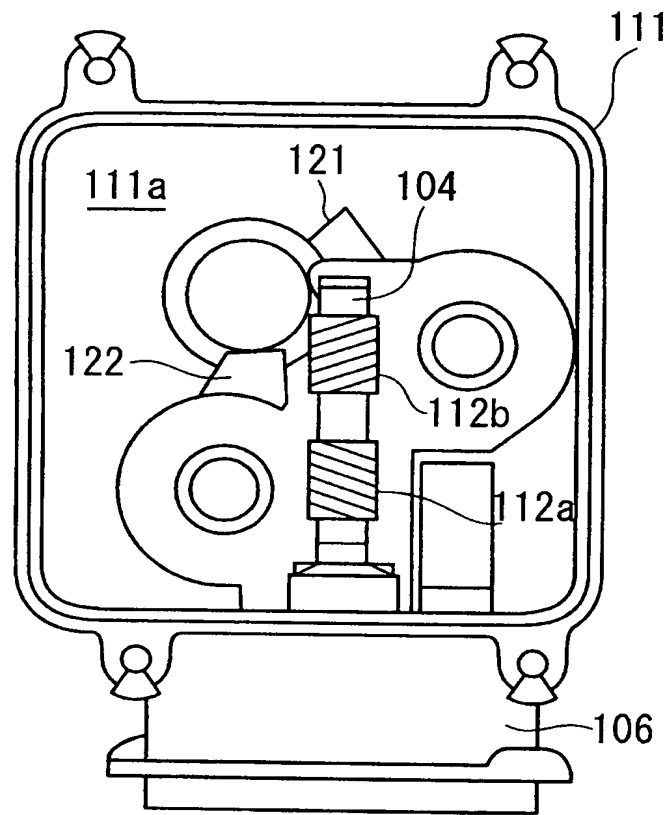


FIG. 8

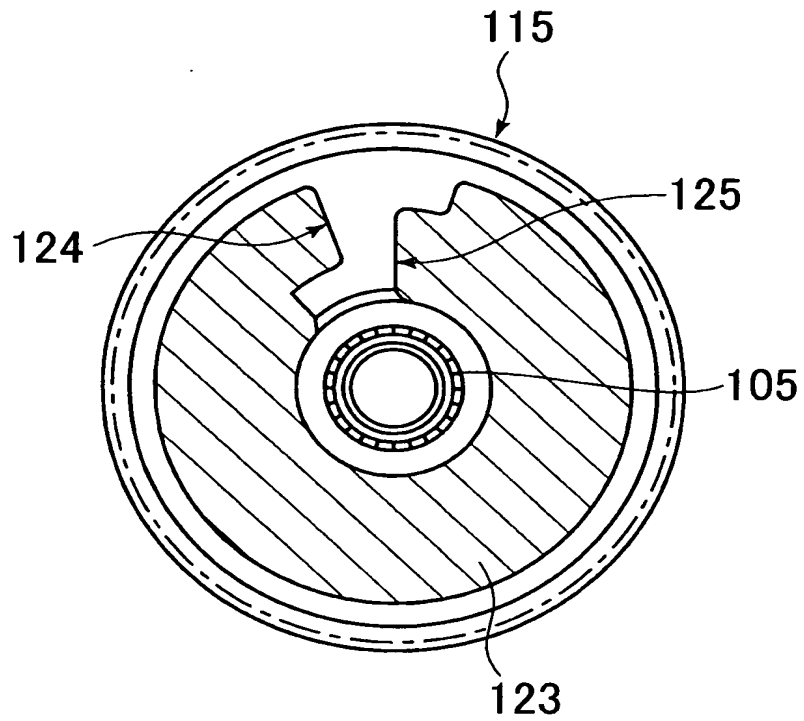


FIG. 9

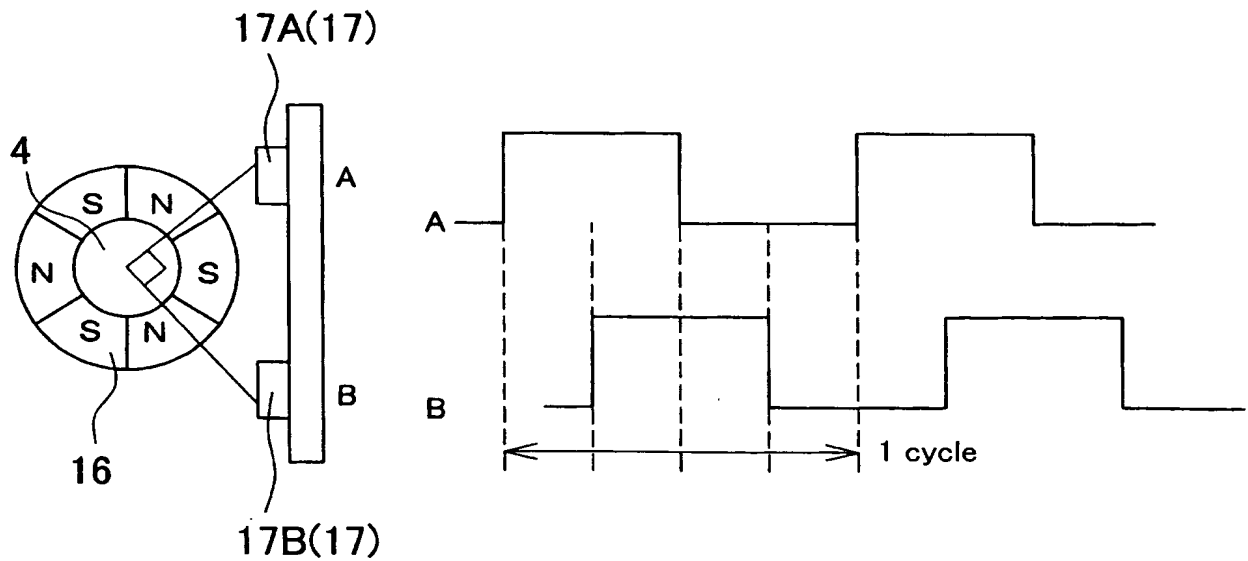


FIG. 10

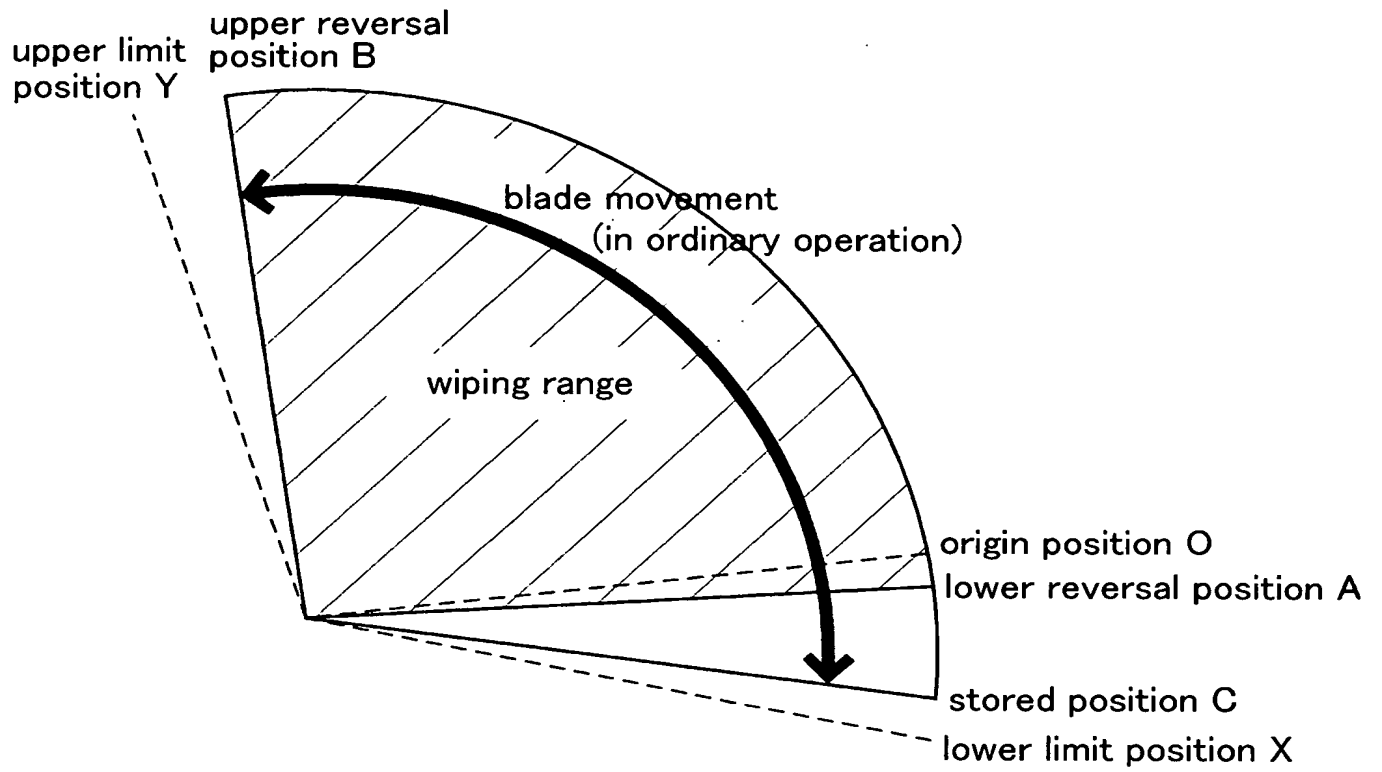
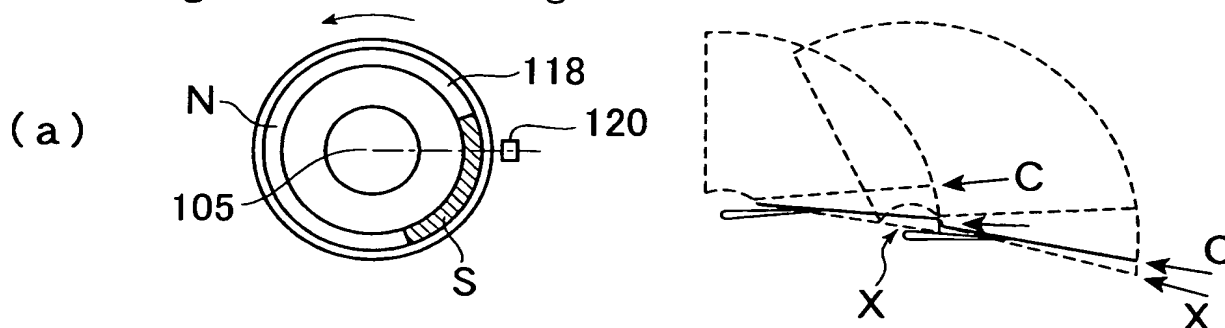


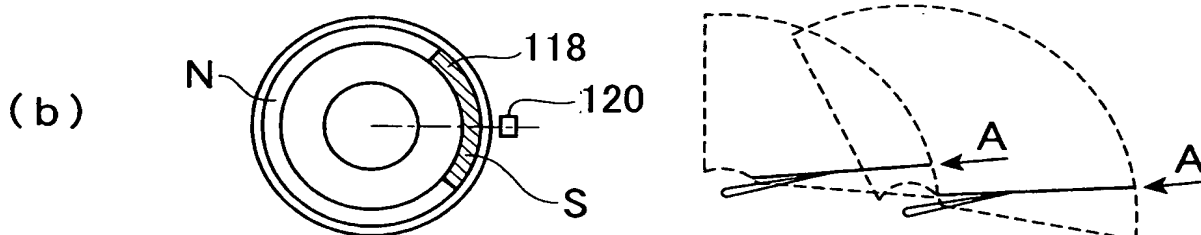
FIG. 11

<stored position (120:S)>

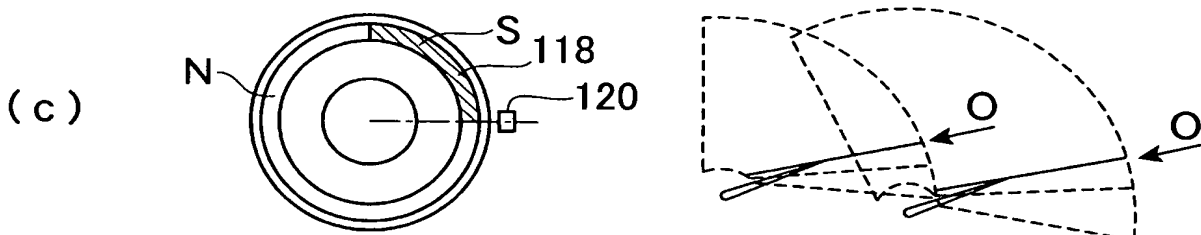
drive gear forward rotating direction



<lower reversal position (120:S)>



<origin position
(120:forward rotation N→S
reverse rotation S→N)>



<upper reversal position (120:N)>

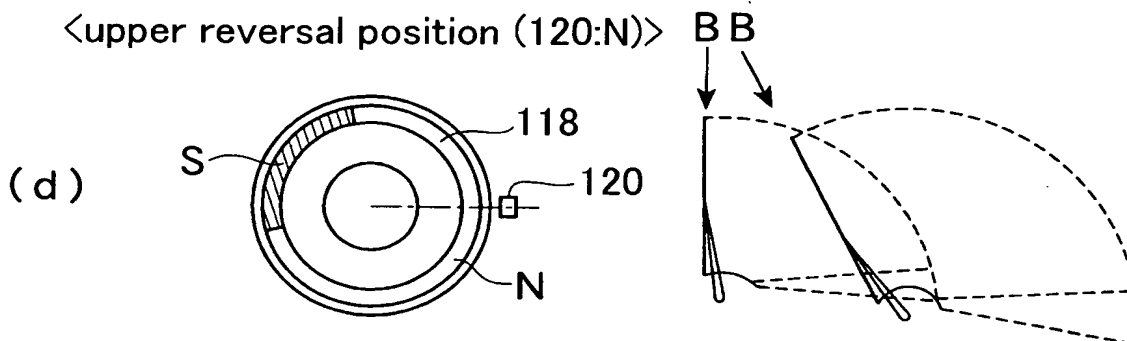
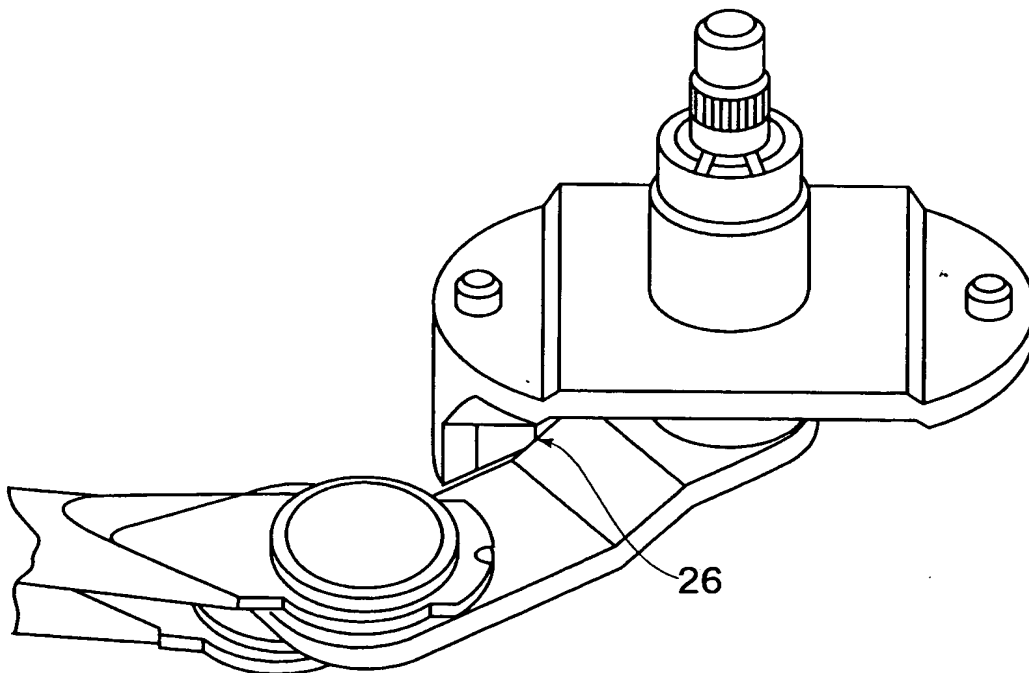


FIG. 12

	Hall IC 20
lower limit position X	S
stored position C	S
lower reversal position A	S
origin position O	S \Leftrightarrow N
origin position O to upper reversal position B	N

F I G . 1 3



F I G . 1 4